

KIC 010140246

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
010140246-01	OBS	No	467.774293	512.277999	900.3	30.720	7.2	10.7	0.71	5583	2.13	0.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010140246-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

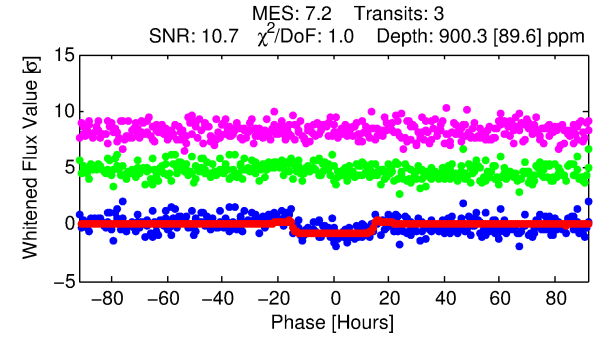
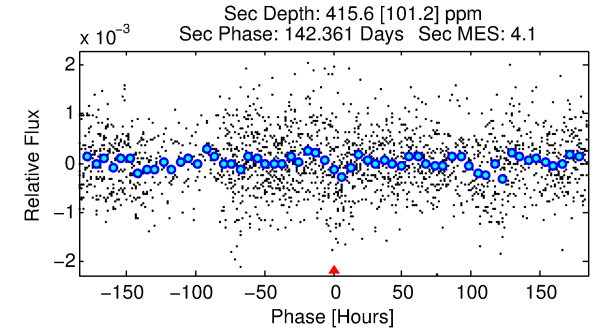
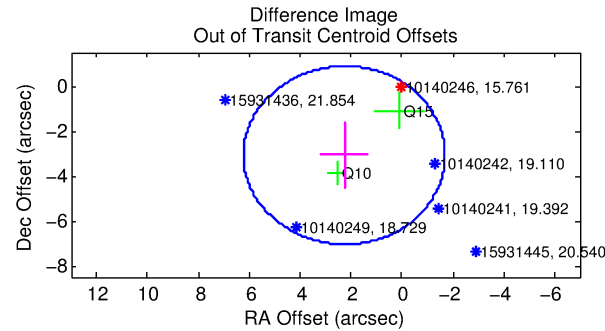
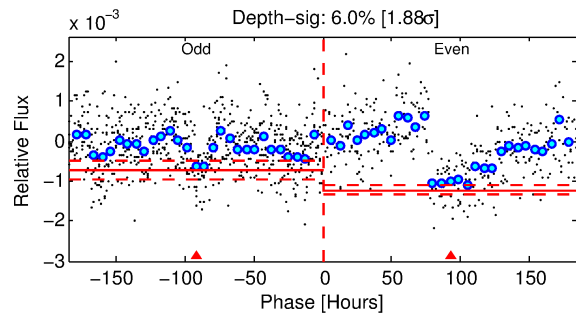
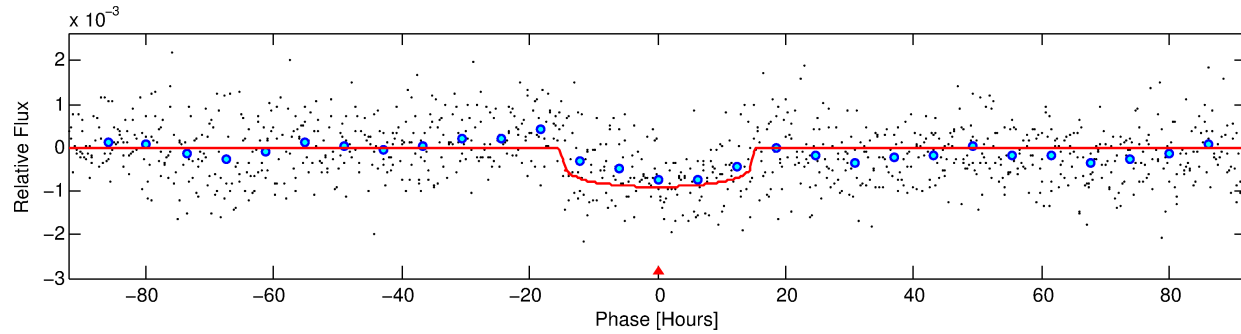
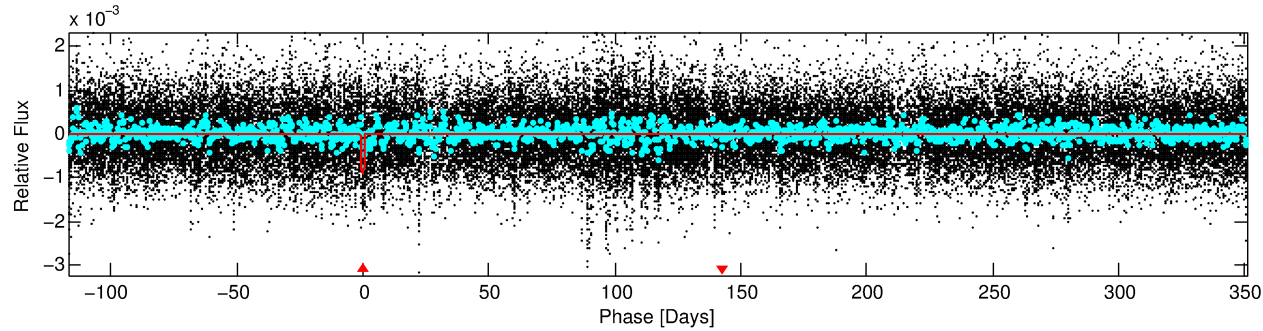
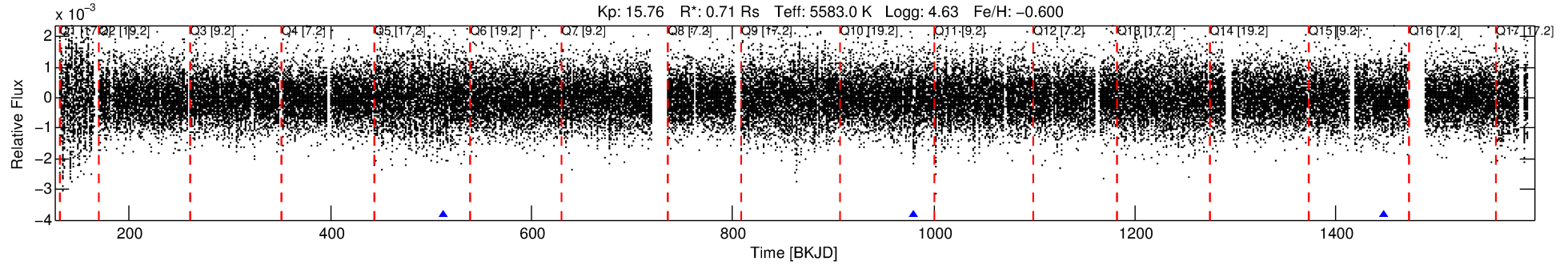
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010140246-01

No Significant Match Found

DV One-Page Summary

KIC: 10140246 Candidate: 1 of 1 Period: 467.774 d



DV Fit Results:

Period = 467.77429 [0.01753] d
Epoch = 512.2780 [0.0242] BKJD
Rp/R* = 0.0274 [0.0088]
a/R* = 117.60 [170.42]
b = 0.18 [7.67]
Seff = 0.37 [0.09]
Teq = 199 [12] K
Rp = 2.13 [0.78] Re
a = 1.0874 [0.1563] AU
Ag = 59677.58 [42821.35] [1.39σ]
Teff = 4816 [840] K [5.50σ]

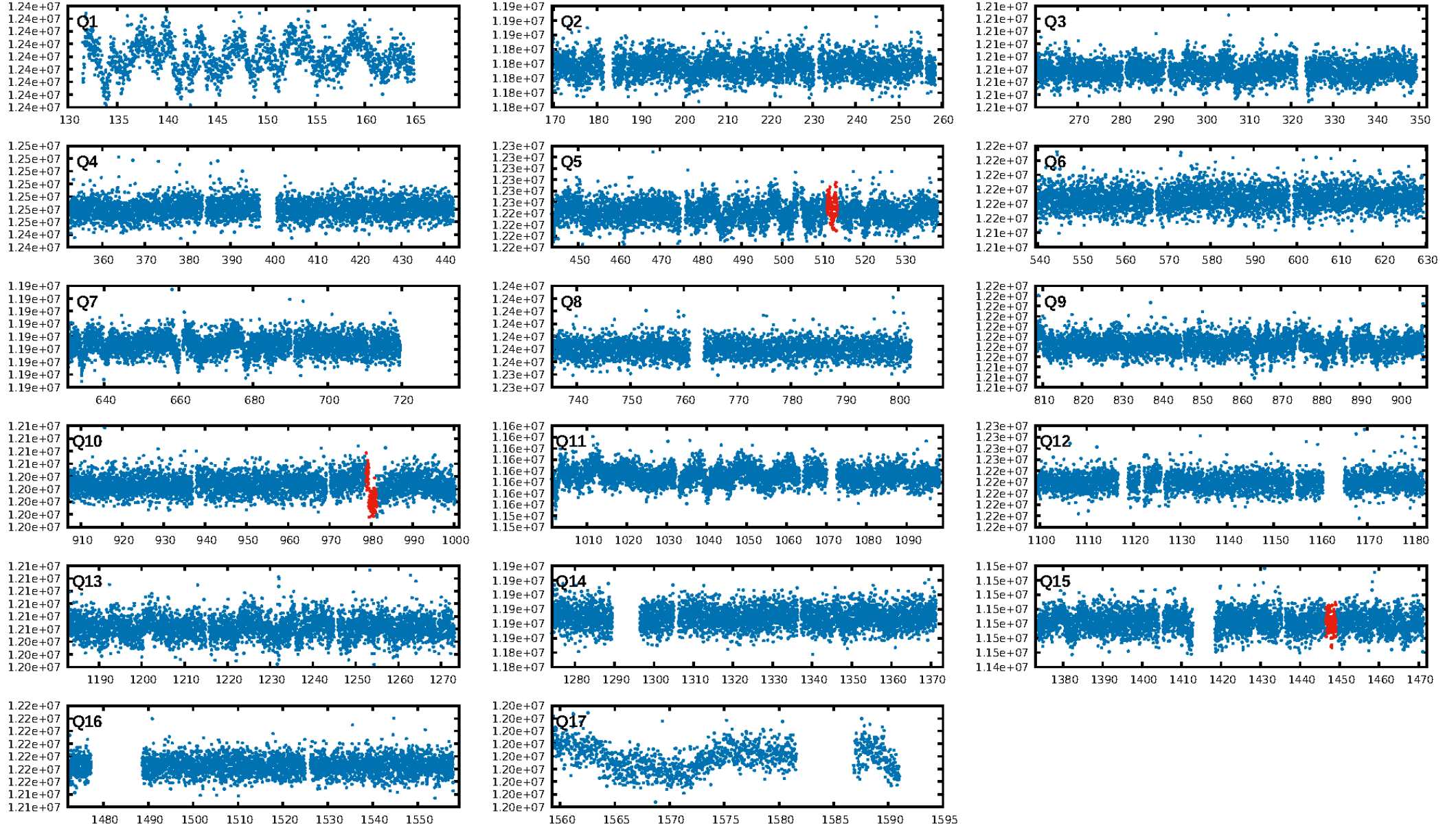
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.99e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.744
Centroid-sig: 7.3%
Centroid-so: 1.703 arcsec [1.42σ]
OotOffset-rm: 3.824 arcsec [2.89σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 3.672 arcsec [2.71σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

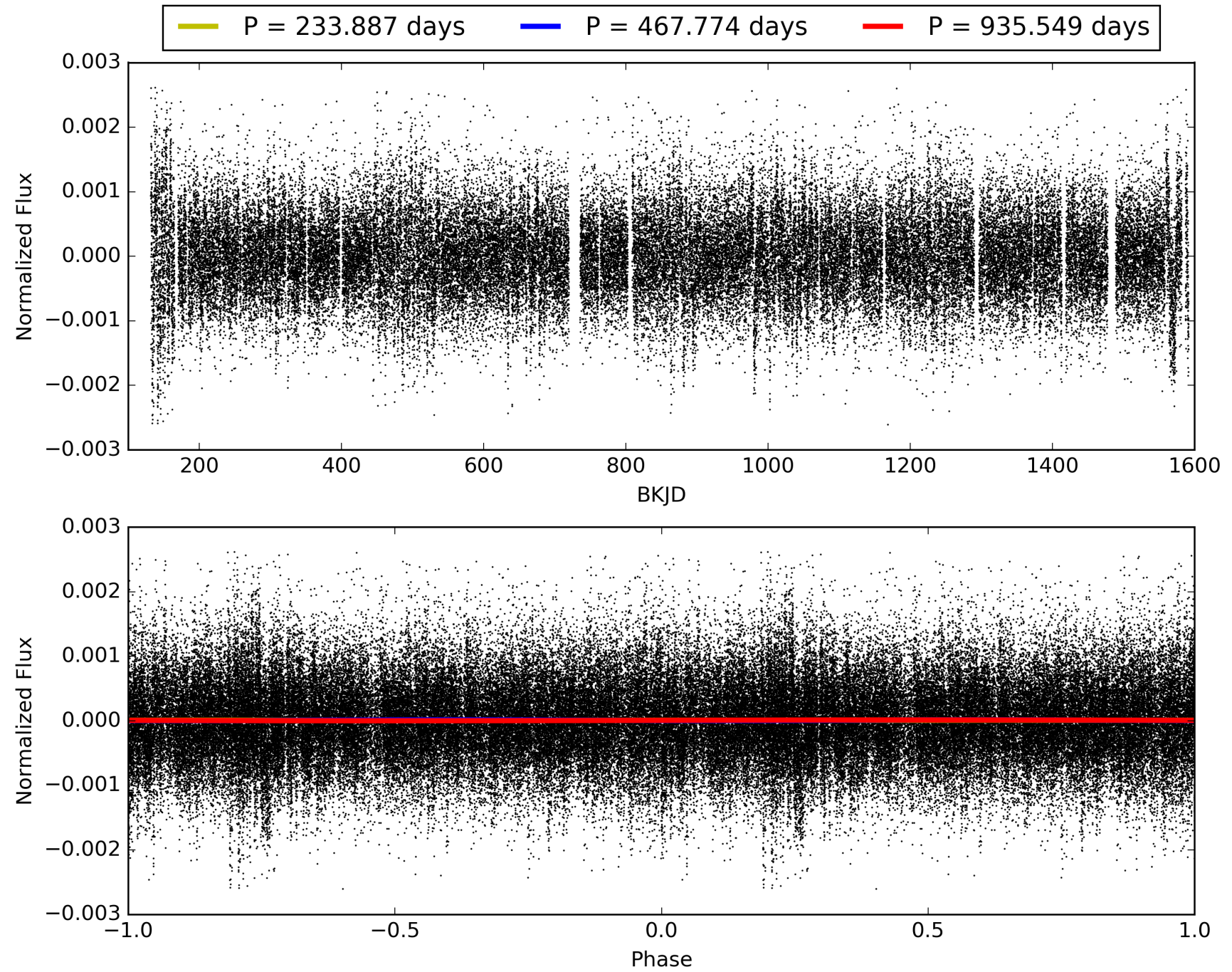
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:10:56 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010140246-01, PDC Light Curves

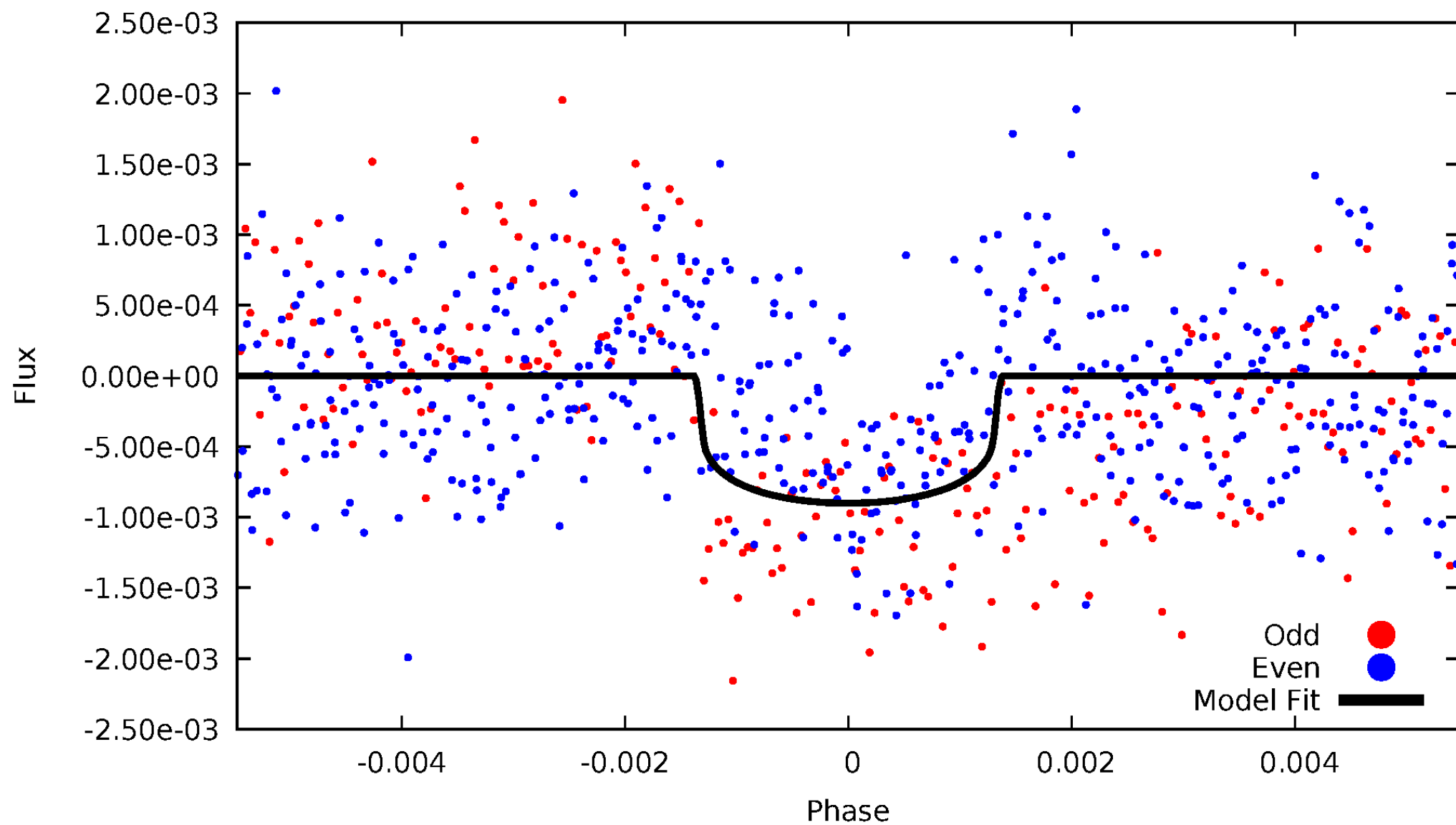


TCE 010140246-01



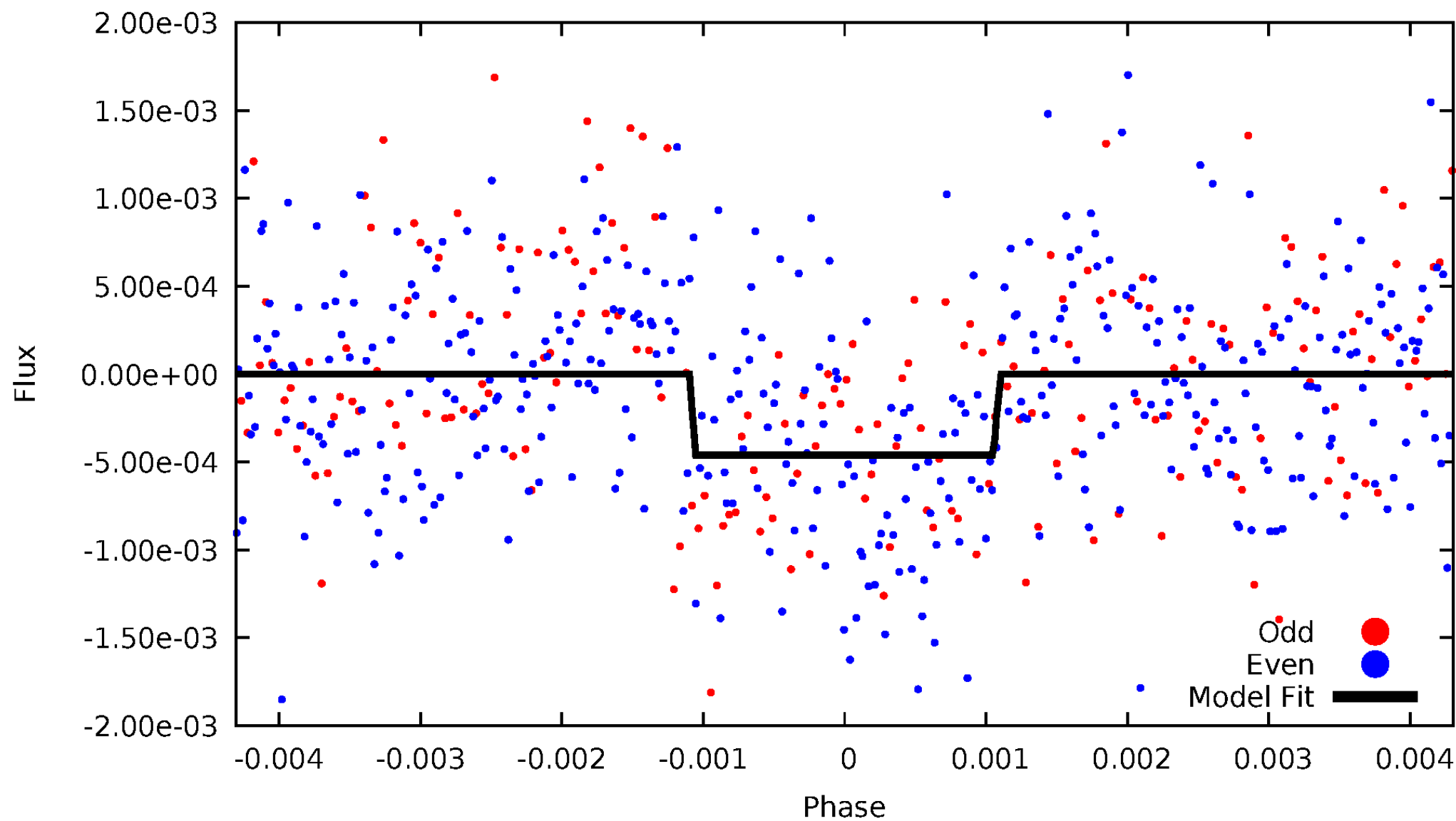
DV Odd/Even

TCE 010140246-01



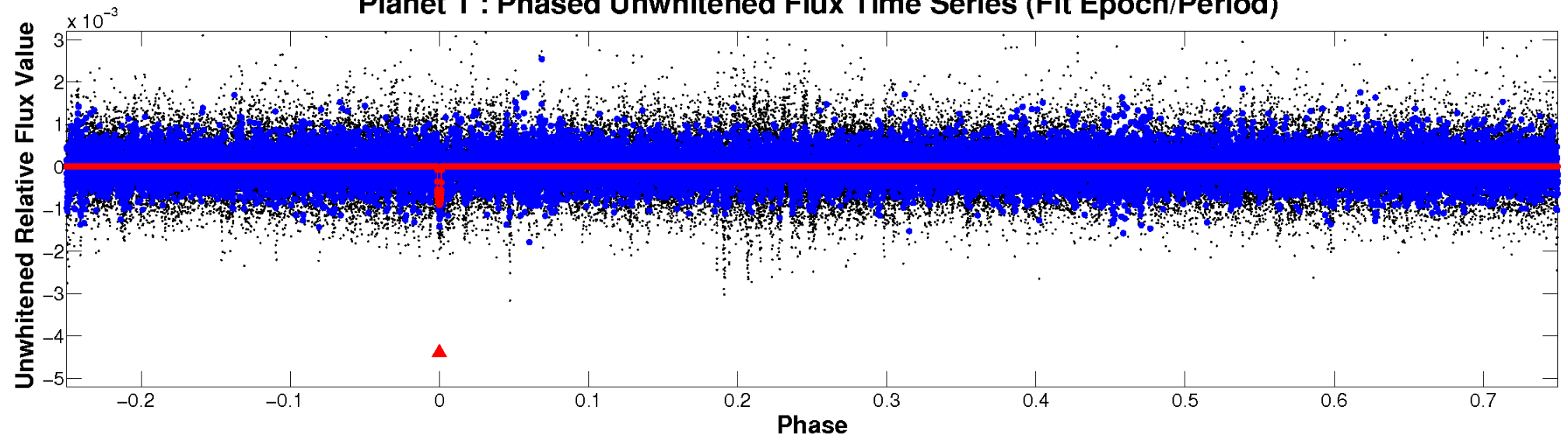
ALT Odd/Even

TCE 010140246-01

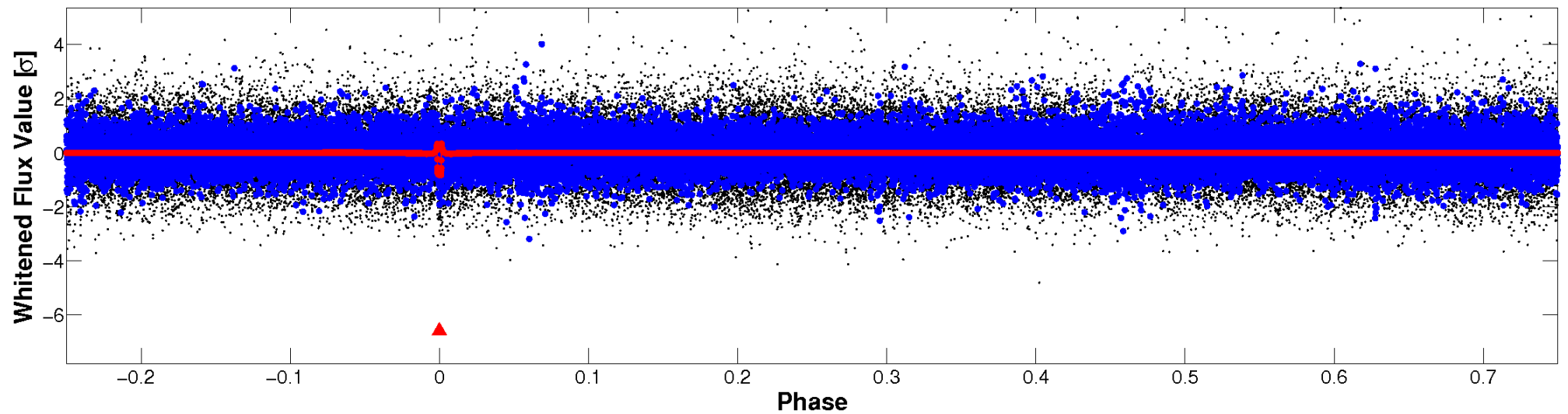


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

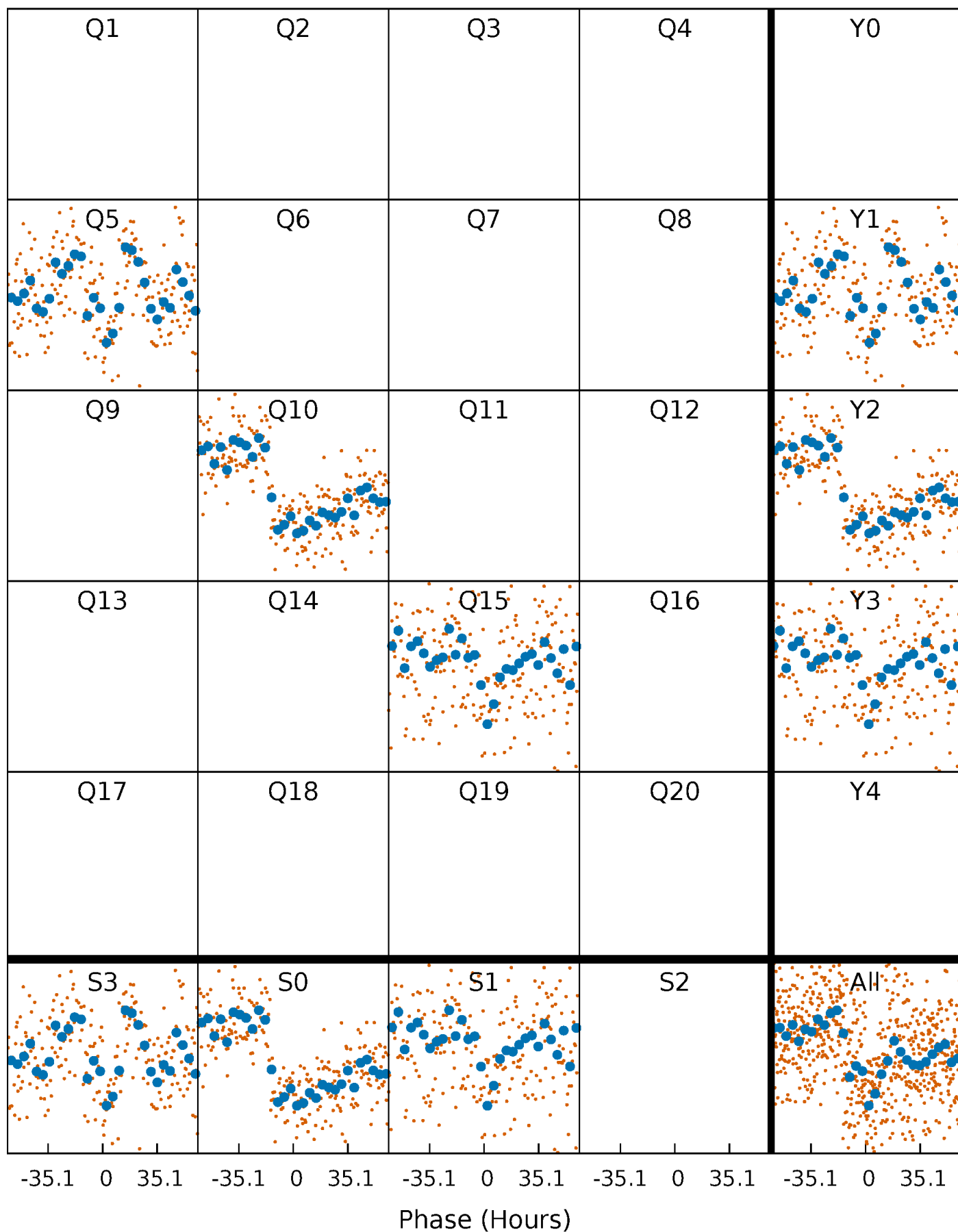


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



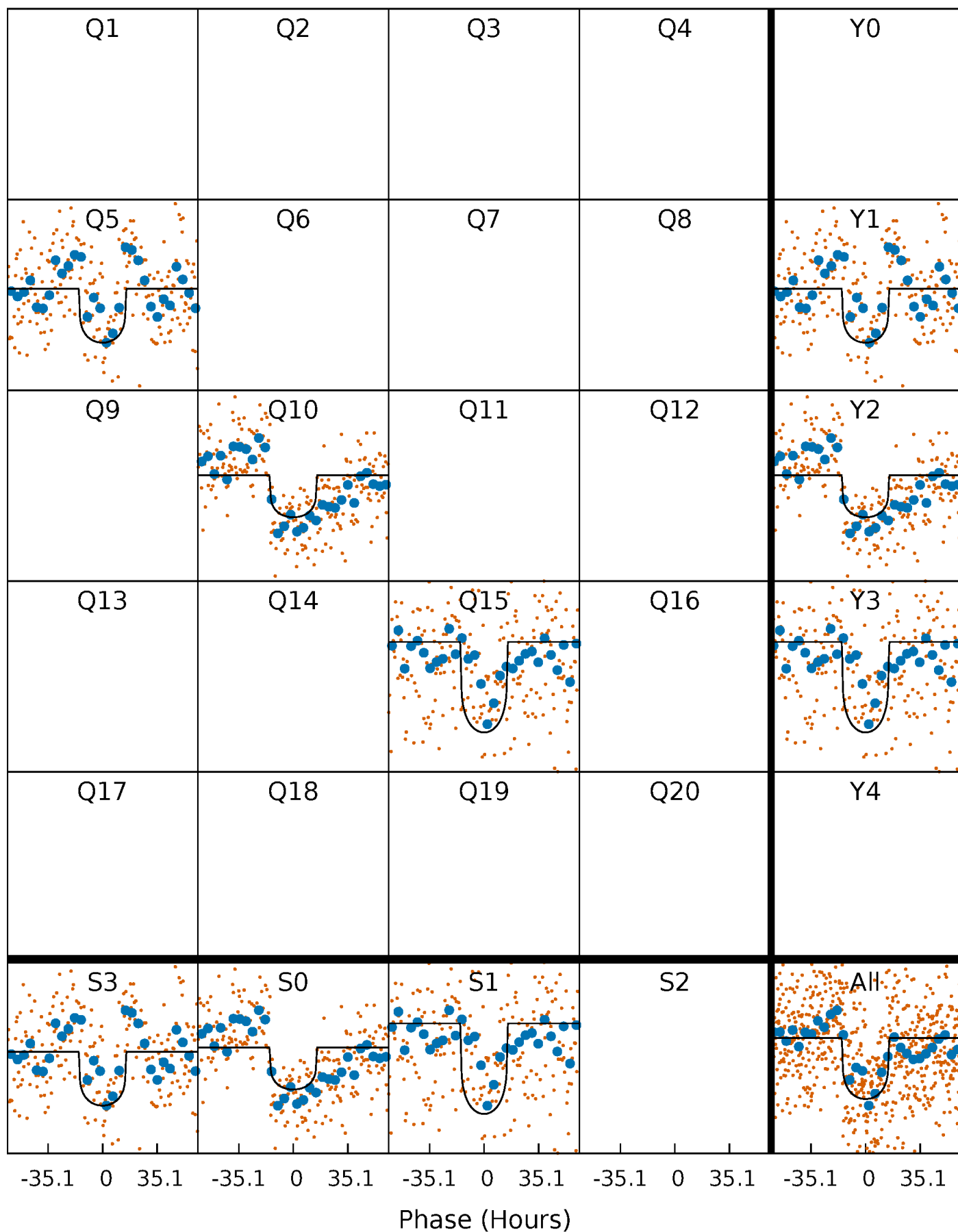
PDC Quarter-Phased Transit Curves

TCE 010140246-01 P=467.774293 Days $T_0=512.277999$ (BKJD)



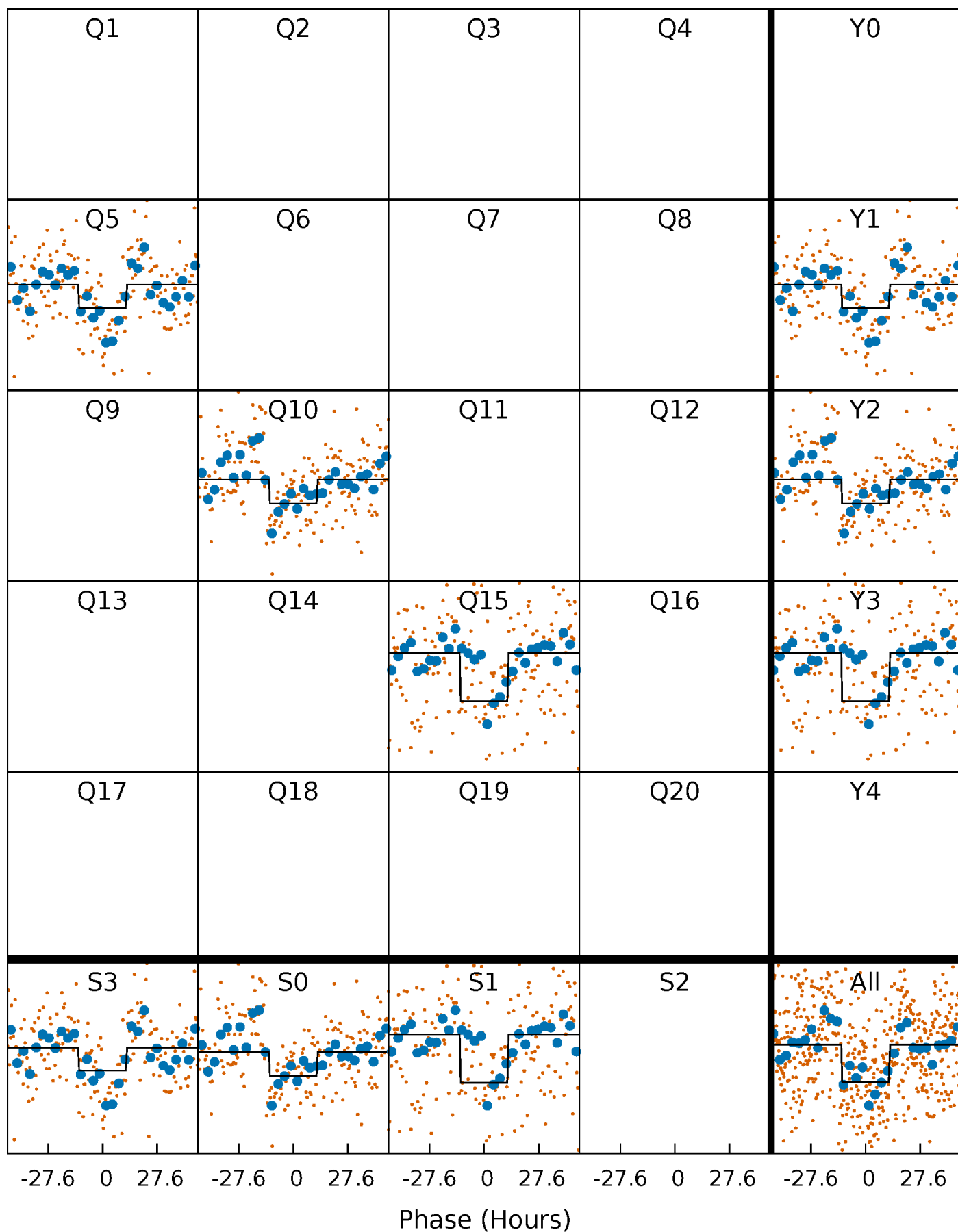
DV Quarter-Phased Transit Curves

TCE 010140246-01 P=467.774293 Days $T_0=512.277999$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

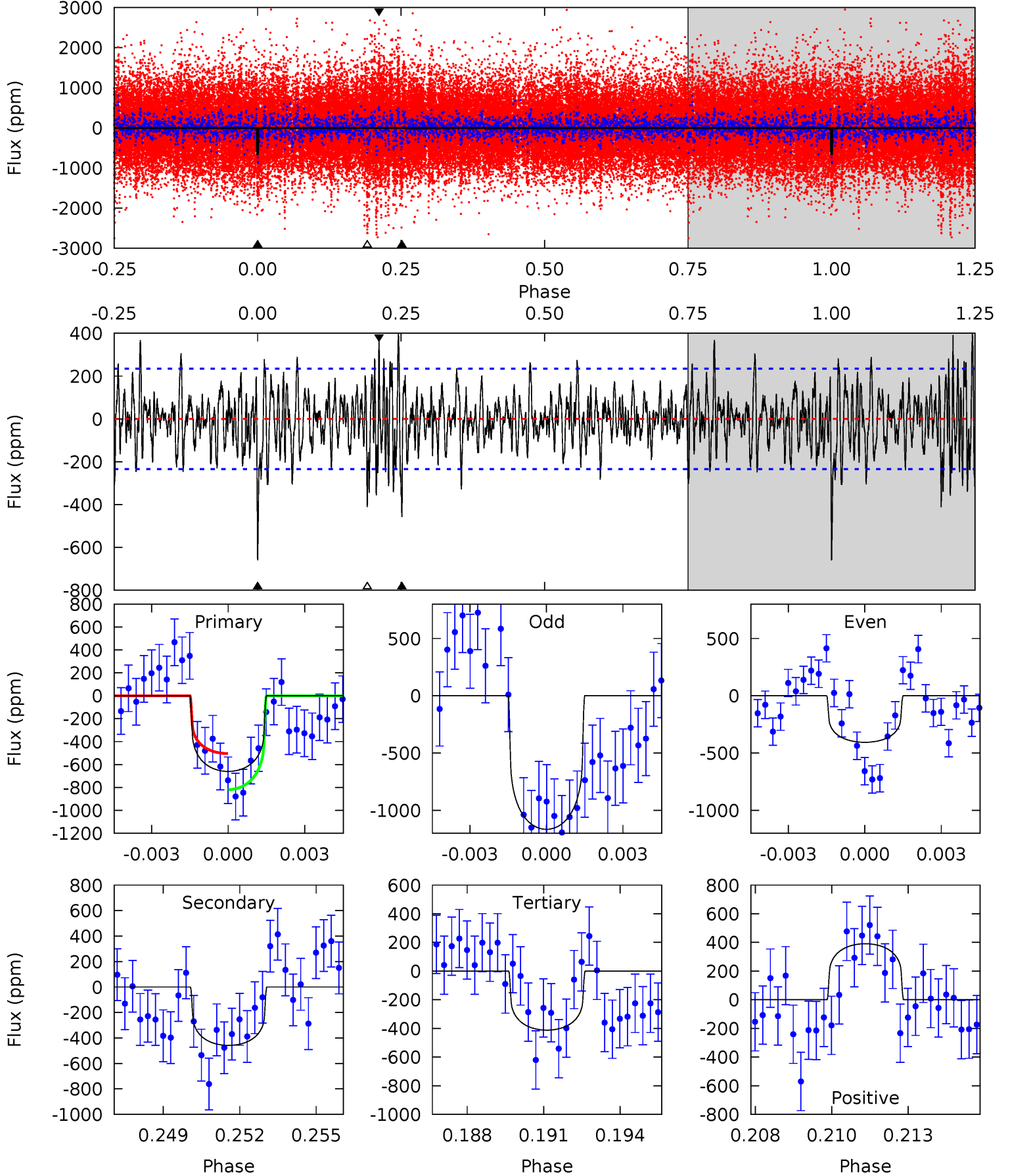
TCE 010140246-01 P=467.717377 Days $T_0=512.294843$ (BKJD)



DV Model-Shift Uniqueness Test

010140246-01, $P = 467.774293$ Days, $E = 44.503706$ Days

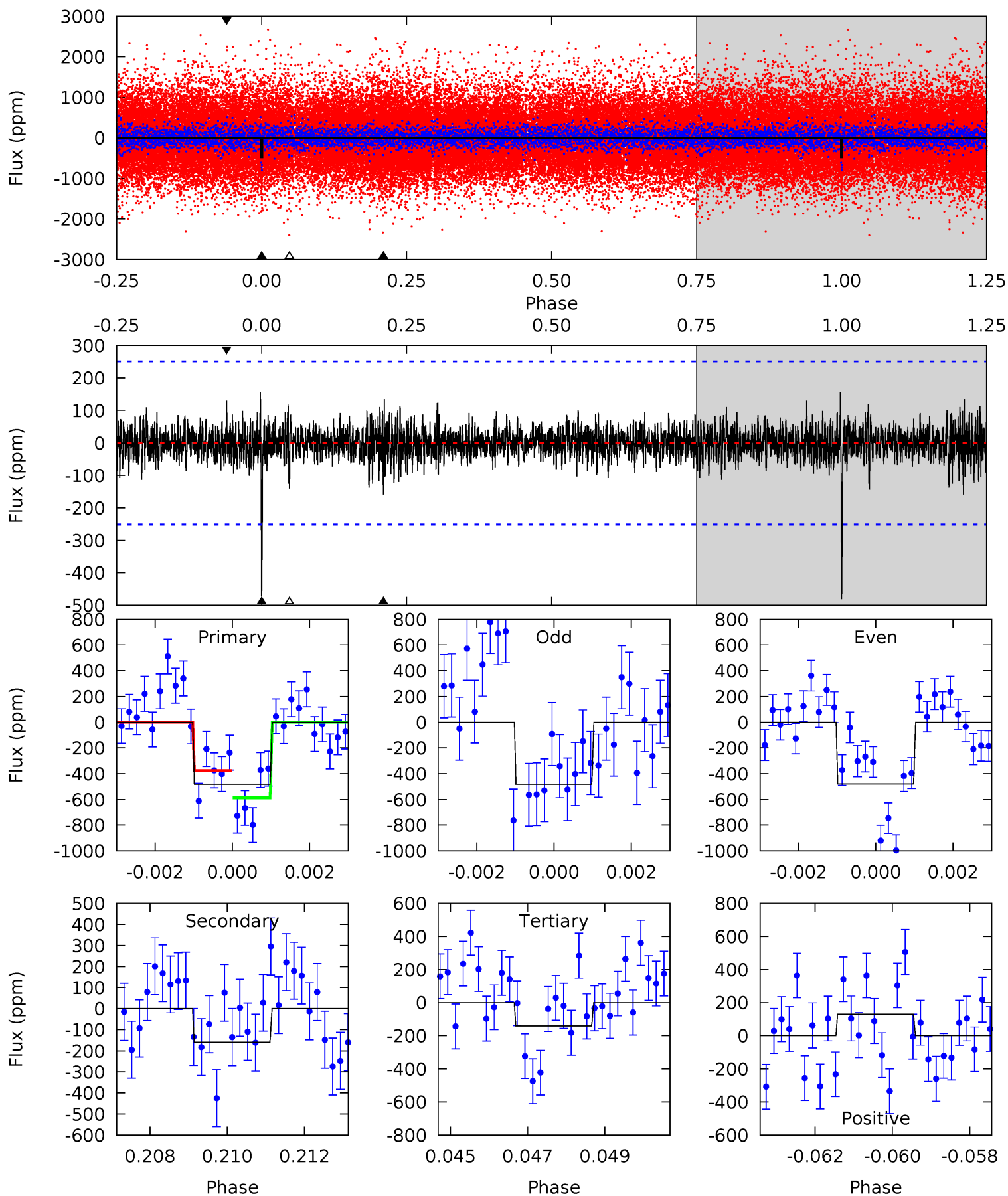
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	10.3	9.26	8.78	5.27	2.99	2.46	5.58	6.05	1.04	1.51	7.96	1.52	0.38	3.53



Alt Model-Shift Uniqueness Test

010140246-01, $P = 467.717377$ Days, $E = 44.577466$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	3.36	2.98	2.74	5.31	3.07	0.73	7.18	7.42	0.38	0.62	0.03	0.99	0.25	2.22



Stellar Parameters For KIC 010140246

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5583^{+167}_{-150}	$4.627^{+0.035}_{-0.112}$	$-0.600^{+0.300}_{-0.300}$	$0.712^{+0.123}_{-0.053}$	$0.798^{+0.076}_{-0.076}$	$3.117^{+0.457}_{-1.047}$
	+3%/-3%	+1%/-2%	+50%/-50%	+17%/-7%	+10%/-10%	+15%/-34%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010140246-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-458 ± 45	$2.19^{+0.73}_{-0.73}$	283^{+12}_{-10}	5008^{+1009}_{-551}	61378^{+80003}_{-26552}
Alt.	-159 ± 47	$1.78^{+0.68}_{-0.74}$	282^{+13}_{-11}	4407^{+1122}_{-560}	33119^{+62658}_{-17470}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

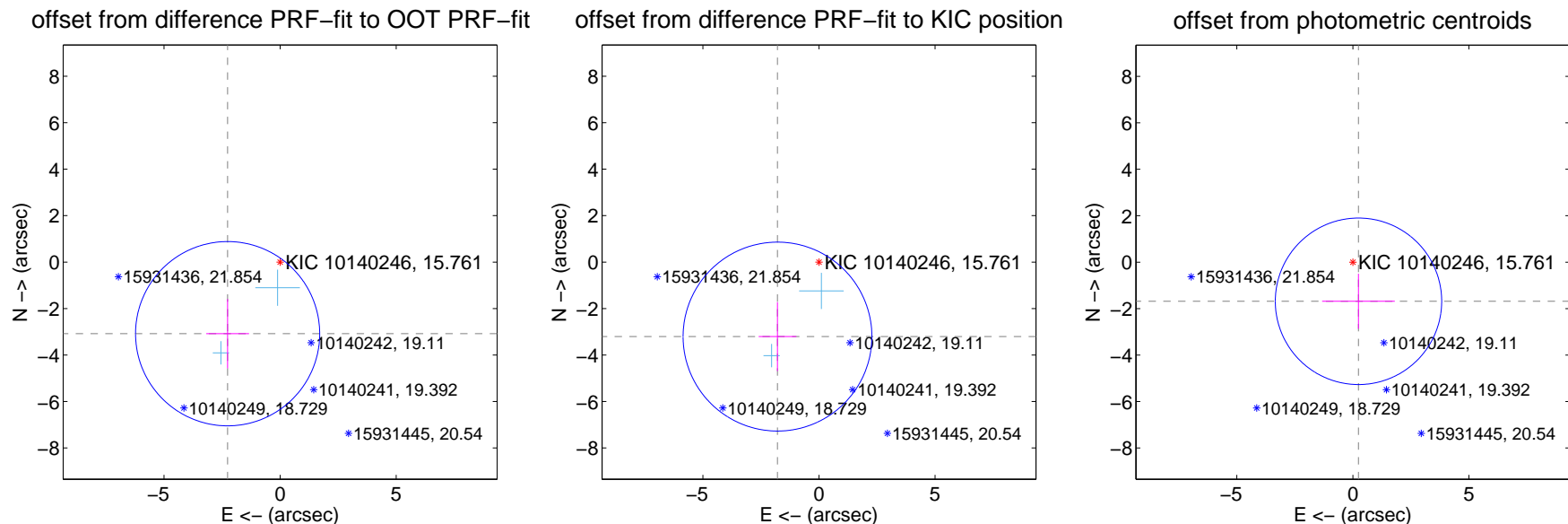
DV Centroid Data

Supplemental centroid analysis for 010140246-01. Kepler magnitude: 15.76. Transit SNR 10.67

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.824 ± 1.322	2.89	2.262 ± 0.924	-3.083 ± 1.493
PRF-fit source offset from KIC position	3.672 ± 1.356	2.71	1.788 ± 0.812	-3.207 ± 1.485
photometric centroid source offset	1.70 ± 1.20	1.42	-0.24 ± 1.57	-1.69 ± 1.19

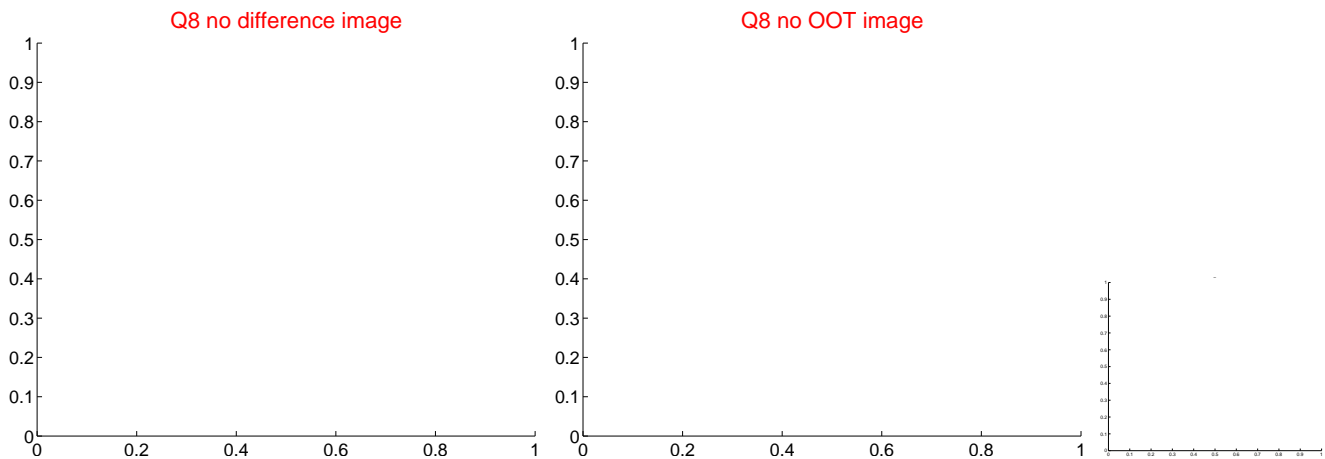
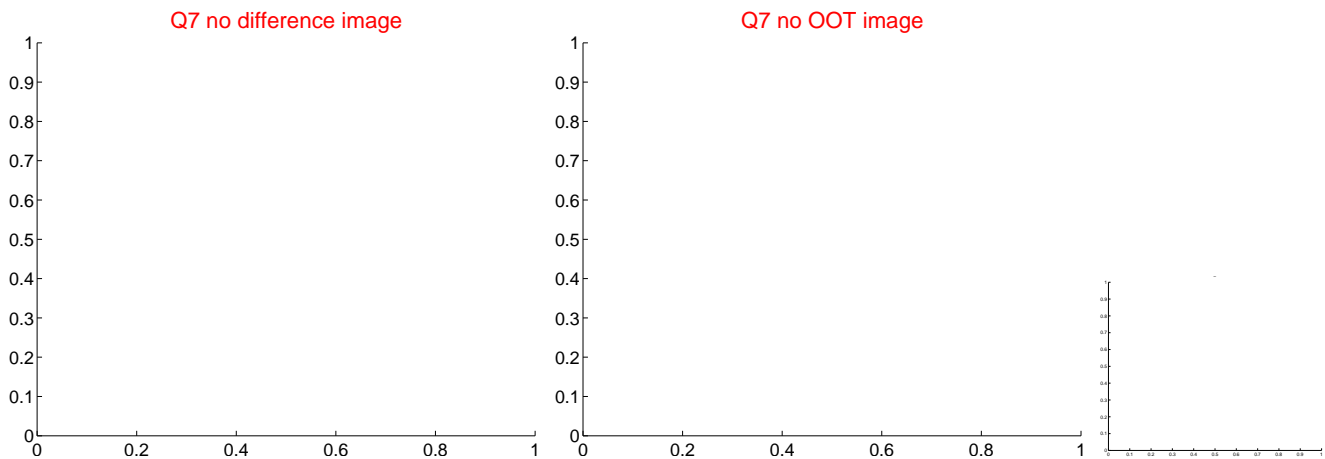
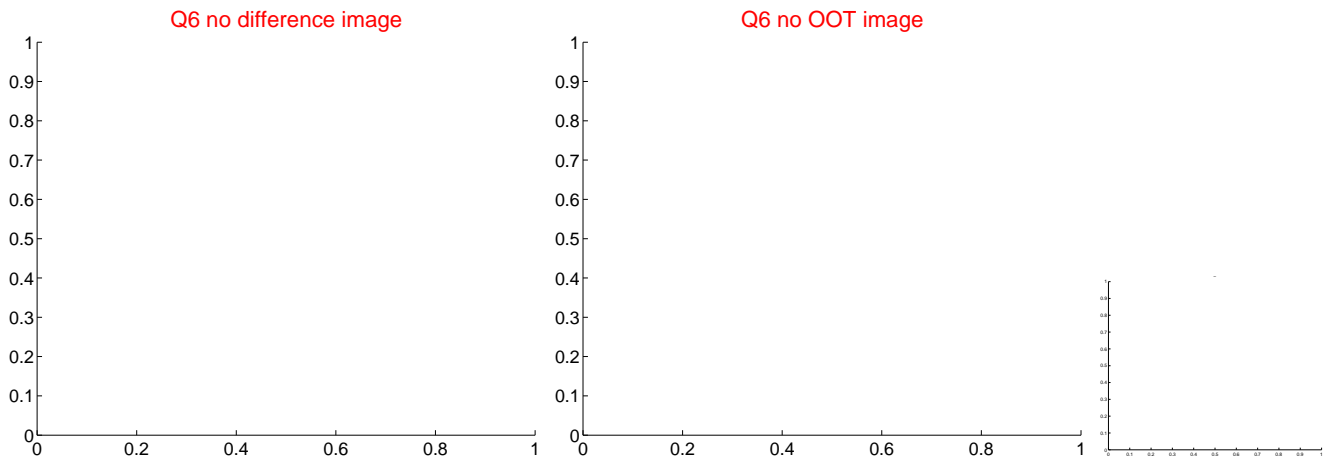
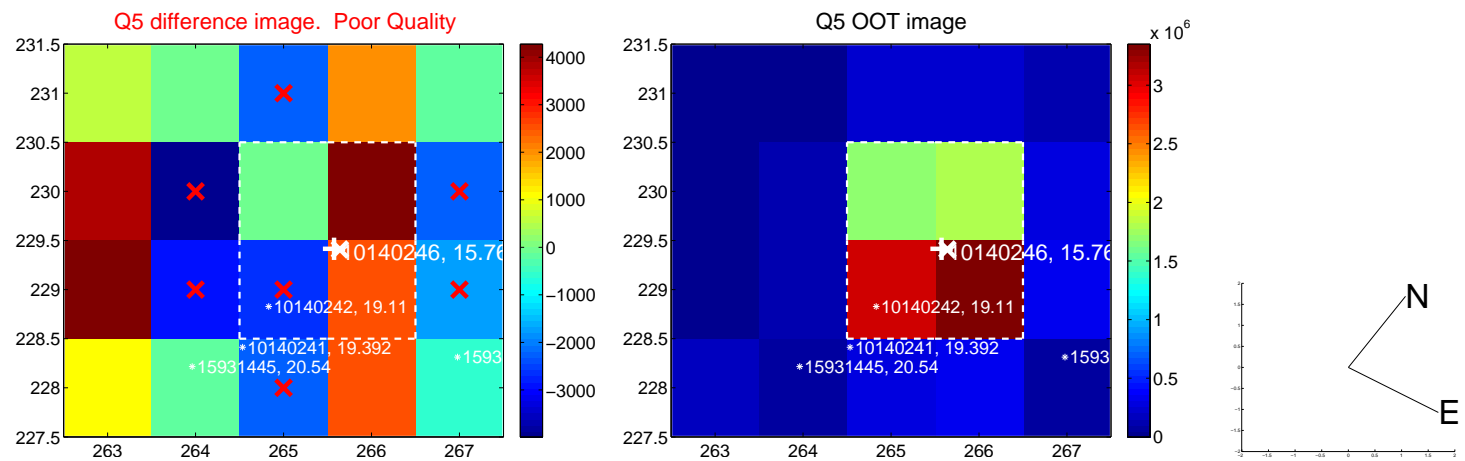


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

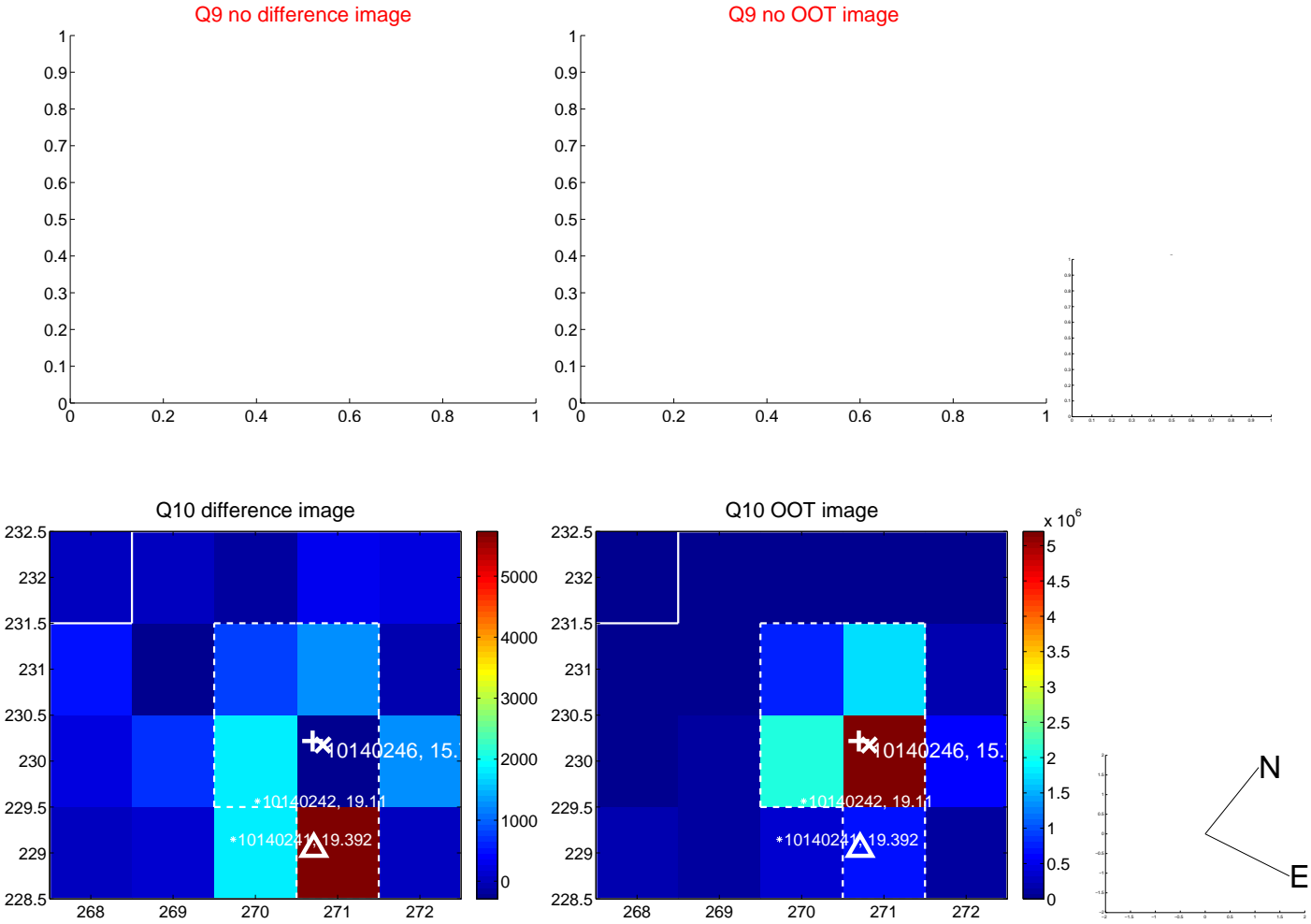
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



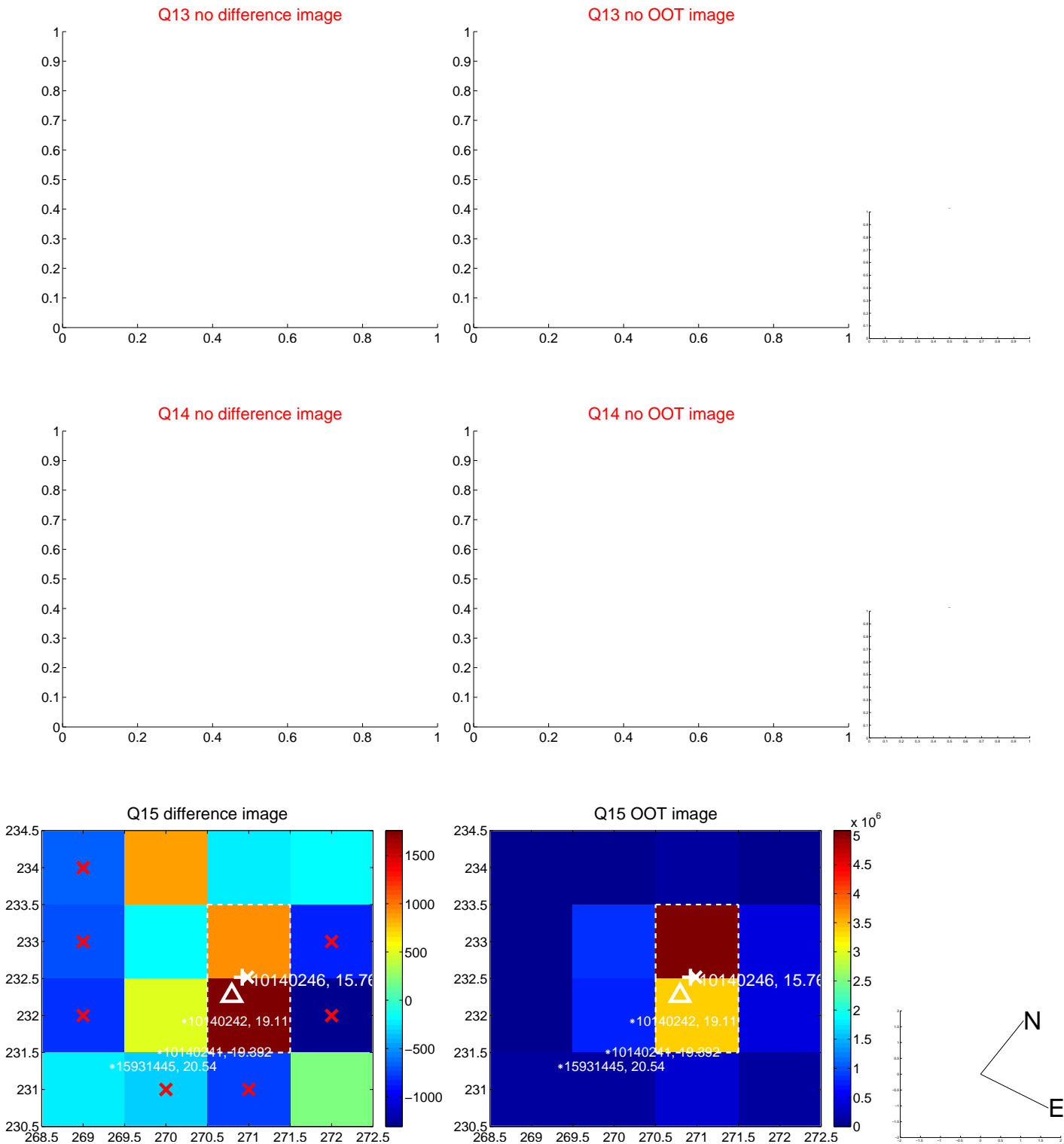
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



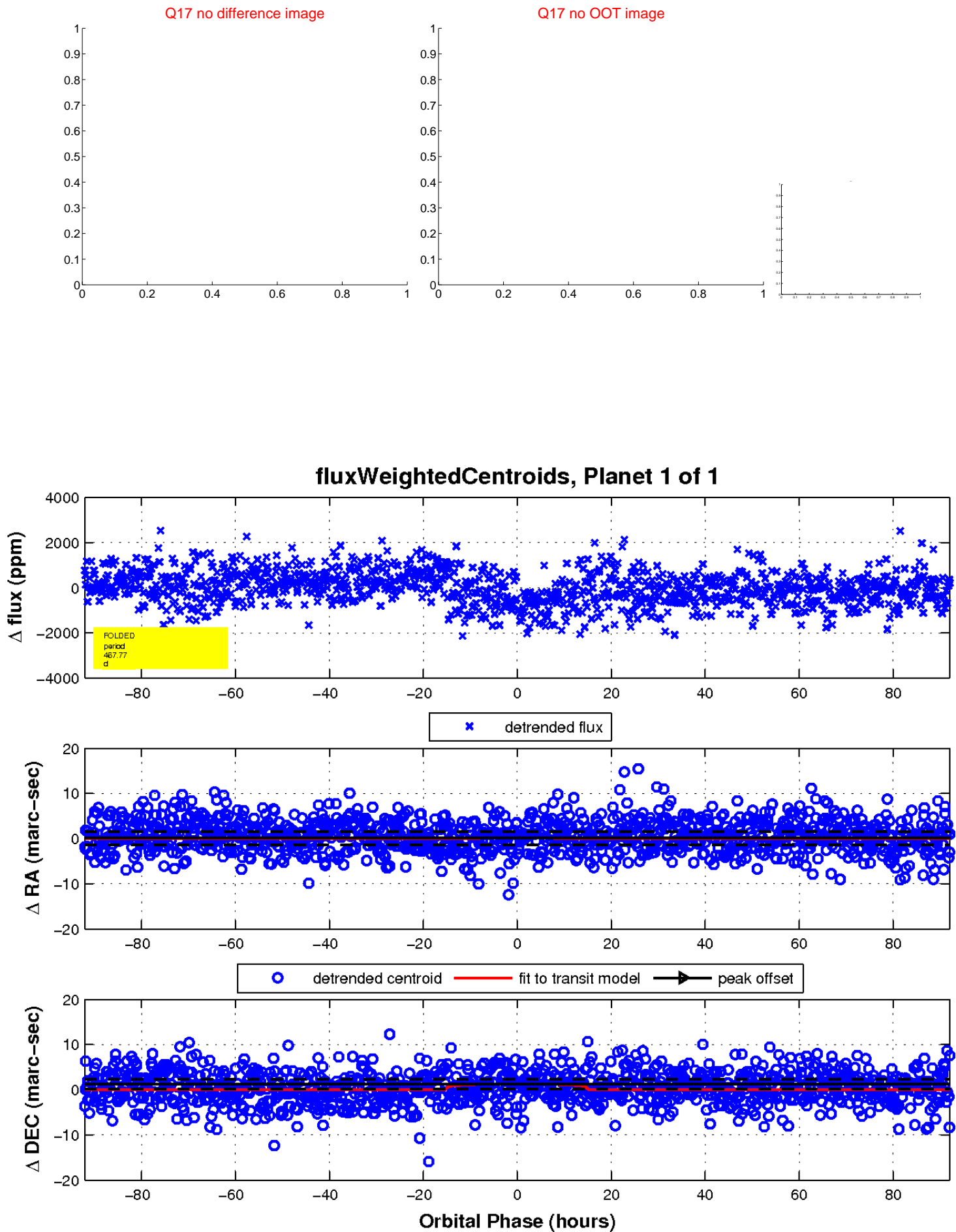
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

